DEPARTMENT OF HEALTH & HUMAN SERVICES Public Health Service

Centers for Disease Control
and Prevention (CDC)
Atlanta GA 30333

TB Notes
No. 2, 2001

Dear Colleague:

This spring and summer brought a number of important meetings that were attended by staff of the Division of TB Elimination (DTBE). The American Thoracic Society (ATS) held its 97th International Conference from May 18 to 23, 2001, in San Francisco, California. I am pleased to report that the CDC-sponsored poster session was well attended. Following the ATS meeting I had an opportunity to review ongoing activities of the San Francisco TB Control Section, with visits to two outreach centers, the TB laboratory, and the Francis J. Curry National TB Center. I also visited the California TB Control Branch in Berkeley. I came away with a most favorable impression of the operations at these sites and of the effective manner in which federal resources are being used to complement the efforts of state and local TB control programs.

The TB Trials Consortium (TBTC) convened in San Francisco May 18-19, since many members were in town for the ATS meeting. Highlights of the TBTC meeting included discussion about, and agreement regarding, developing a research collaboration with the TB Research Unit (TBRU), sponsored by the National Institute of Allergy and Infectious Diseases, National Institutes of Health. Attendees also agreed on the need to ensure close coordination between the TBTC and the newly-formed TB Epidemiologic Studies (TBES) Consortium.

The National TB Controllers Association (NTCA) and DTBE conducted the 2001 National TB Controllers Workshop from June 19 to 21, 2001, in Baltimore, Maryland. The theme of this year's Workshop was "TB Elimination -- Accelerating the Decline." The workshop was a tremendous success, owing to the planning and hard work of the NTCA members and DTBE staff involved. DTBE will publish the workshop proceedings in the next few months. The NTCA subcommittee on Information Technology (IT) also met in Baltimore on June 20. The members of the subcommittee agreed to convene an IT workgroup in September to further develop a core set of standards for patient management data.

The Advisory Council for the Elimination of Tuberculosis (ACET) met July 12 and 13, 2001, in Atlanta. Dr. Helene Gayle and I provided Director's Reports, giving updates on the activities and plans of the National Center for HIV, STD, and TB Prevention (NCHSTP) and of DTBE, respectively. It appears that DTBE's proposed reorganization will be delayed because of new staffing standards set by the Department of Health and Human Services. We are considering a modified proposal that would convert the International Activity to a branch, and would change the names of four other branches. The current proposal for reorganization brings more clarity and visibility to existing DTBE functions in a manner consistent with the recommendations in the Institute of Medicine (IOM) report, *Ending Neglect: The Elimination of Tuberculosis in the United States*. Mr. Gary Ewart, Associate Director, ATS Government Relations, gave an update on the status of the TB Elimination Act. He reported that legislative proposals HR1167 (the Comprehensive TB Elimination Act) currently has 75 cosponsors, and HR1168 (the Stop TB Now Act) has >80 cosponsors; the Senate versions of these bills, S1115 and S1116 respectively, have six cosponsors. The ALA plans to conduct a related Congressional briefing in September. Dr. Rick O'Brien talked about two treatment issues: the status of the ATS/CDC statement on treating TB, and the activities being conducted in connection with investigations

of hepatitis associated with the use of rifampin and pyrazinamide for the treatment of latent TB Infection (LTBI) (see additional details below). Mr. John Seggerson gave a report on the draft Federal TB Task Force Plan. The plan is being developed by representatives of over 40 federal agencies in response to the IOM report *Ending Neglect;* members of the Task Force are now collaborating with other partners to develop specific strategies and detailed action plans. Drs. Charles Wallace and Sarah Royce, NTCA representatives, are collaborating with Federal TB Task Force members and providing input into this plan. Dr. Charles Nolan led a review of the draft ACET statement on plans for managing and eliminating TB in low-incidence states, and I talked about CDC's report, "CDC's Plan for Ending Neglect: the Elimination of Tuberculosis from the United States." Comments from the meeting will allow ACET and DTBE to finalize these documents.

As you know, in April 2000, the ATS and CDC published recommendations entitled "Targeted Tuberculin Testing and Treatment of Latent Tuberculosis Infection." These guidelines include a new option, based on the results of recent clinical trials, to use 2 months of rifampin and pyrazinamide for LTBI in HIV-positive (and HIV-negative) persons. In April 2001, CDC published a report entitled "Fatal and Severe Hepatitis Associated with Rifampin and Pyrazinamide for the Treatment of Latent Tuberculosis Infection — New York and Georgia, 2000." (*MMWR* 2001;50:4-5). The report describes adverse events in two individuals who had been treated with 2RZ for LTBI. The first patient was a 53-year-old incarcerated man with a history of alcohol abuse and hypertensive heart disease who died after being treated with 2RZ for one and a half months; the second was a 59-year-old woman with suspected exposure to drug-resistant TB who was hospitalized with severe hepatitis associated with 2RZ.

In response to these events, I formed a DTBE *ad hoc* working group that has met regularly to review available data on LTBI-related adverse events. Each report of adverse events has been investigated or scheduled for investigation. Dr. John Jereb and Mr. Dan Ruggiero in the Field Services Branch are the primary focal points for the working group and for receiving reports. DTBE is asking to be notified of severe hepatitis in patients being treated with *any* LTBI treatment regimen ("severe" means death or admission to a hospital). To report such events, please call (404) 639-8125. In June the ATS, the NTCA, the Infectious Diseases Society of America (IDSA), and CDC convened in Baltimore to review information on additional reported cases; review prospective studies of LTBI treatment, with a focus on 2RZ; consider the need for revising the recent guidelines; and determine additional data needs. To summarize what we know so far about the epidemiology of hepatitis associated with treatment with 2RZ: it appears to occur in older persons, in persons with other underlying diseases, in those taking other medications, and in persons who have experienced INH-related hepatitis. It is believed to be associated with a provider's inability to routinely or consistently monitor patients, and with continued treatment after onset of signs and symptoms of adverse events. CDC is currently revising the guidelines for the use of 2RZ for treatment of LTBI; this revision will likely be published soon.

The DTBE surveillance data slide set for the year 2000 is now available, accessible via Internet at www.cdc.gov/nchstp/tb/pubs/slidesets/surv/surv2000/default.htm. Other news from the Surveillance and Epidemiology Branch (SEB) is that the Surveillance Section of SEB is initiating the process of revising the Report of Verified Case of Tuberculosis (RVCT). Based on expressions of interest from a number of areas, DTBE has begun preparing a list of people interested in participating in the *ad hoc* workgroup, as well as preparing a summary of the comments that have been submitted to date. We would like to thank those who have already submitted their suggestions on improving the RVCT; these suggestions were to be provided to

Dr. Eileen Schneider by telephone or e-mail by July 30, 2001. We expect that the workgroup's first conference call, discussing initial suggestions, will occur in late August. Once proposed changes have been summarized, we plan to distribute this document to TB controllers and other interested persons for general comments.

One final note: DTBE has recently instituted an Awards Committee, whose purpose is to find ways to promote awareness about incentive awards in the Division. We hope this will lead supervisors to learn about and use the awards system to recognize the important work of their staff. I hope we all recognize that the most important asset of any organization is the people working there. A good way for managers to motivate (and thus retain) these precious resources is to let them know that we are aware of their hard work and that we value their contributions. Sometimes a supervisor may be reluctant to recognize an employee for fear of causing other employees to feel resentful or unappreciated. The solution, of course, is to give more awards to others deserving of recognition, not fewer! The process of becoming knowledgeable about the types of awards available and of writing nominations may feel awkward at first because they are unfamiliar activities. However, once a culture of appreciation and recognition has been established in an office, it becomes natural and routine to recognize those outstanding staff contributions, leading directly to improved employee morale and productivity, leading to more awards ... and a powerful cycle of mutual appreciation, support, and loyalty is set in motion. This is the classic "win/win" situation, and I truly believe our plans and strategies for the elimination of tuberculosis depend on our forging such bonds with our staff.

Thank you for your continued dedication to the cause of TB prevention, control, and eventual elimination.

Kenneth G. Castro, MD

In This Issue

NOTE: The use of trade names in this issue is for identification only and does not imply endorsement by the Public Health Service or the U.S. Department of Health and Human Services.

Number 2, 2001

TB Notes

Centers for Disease Control and Prevention
Atlanta, Georgia 30333

Division of TB Elimination ◆ National Center for HIV, STD, and TB Prevention

HIGHLIGHTS FROM STATE AND LOCAL PROGRAMS

Miami–Dade County Health Department Opens LTBI Clinic

On March 19, 2001, the Miami–Dade County Health Department (MDCHD) TB Program opened a special clinic for patients with latent TB infection (LTBI).

In January 2001, the administrative staff of the MDCHD identified clinic and office space that formerly housed the old family planning clinic and is located just a few doors away from the main TB clinic. After some minor renovations and a fresh coat of paint, the LTBI clinic opened its doors in March. The goal of the clinic is to increase the therapy adherence rates for clients receiving treatment for LTBI. All high-risk patients who have been screened and tested for LTBI and who have a positive skin test are followed up for active TB disease. At the first visit to the main TB clinic, active TB is ruled out; all clients are then educated about LTBI by the nursing staff and are encouraged to go on treatment for LTBI. Each patient is provided a one-month supply of treatment and an appointment for the new LTBI clinic in a month's time.

The LTBI clinic is staffed by two nurses and one Health Support Technician. The clinic has been decorated to make it appealing and comfortable to clients: there are plants, a couch and a TV, and educational materials in several languages. Through staff donations, refreshments are available to patients visiting the clinic.

How it works: For each scheduled LTBI patient who comes into the LTBI clinic, staff members provide counseling about adverse reactions, provide motivation regarding the importance of taking and completing their LTBI course of treatment, and give another month's supply of medication and another appointment to return to the LTBI clinic in one month. Within one workday, they call those patients who miss their appointments to reschedule the visits. If they cannot reach a patient by phone, the clinic staff employees mail a letter out within two workdays. The TB Program is currently evaluating these activities. The average length of time for each patient's visit is approximately 10 to 15 minutes (for those without adverse reactions to medication). A recent customer satisfaction survey conducted by the MDCHD documented that clients like the clinic, the specialized attention and care they are given, and especially the quick and prompt service they receive.

From March 19 through April 19, 2001, a total of 602 patients were seen at the LTBI clinic. It should be noted that these 602 clients would normally have been seen at the main TB clinic. Thus, a secondary benefit from this project is that it has lessened the patient flow at the main TB clinic, allowing patients there to be seen faster. Other preliminary data from the LTBI clinic show that 407 patients kept their appointments (68%) and 56 clients completed a course of LTBI treatment during the first month of operation.

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Visit DTBE's Internet home page
(http://www.cdc.gov/nchstp/tb/)
for other publications, information, and
resources available from DTBE.

The TB Program staff are encouraged by these preliminary results and look forward to seeing improvements as the clinic gains momentum and builds a positive reputation among the patient population of the Miami–Dade County area.

—Submitted by M.C. Desrosiers, MD
Director, TB Control Program
and Harry Stern, Senior PHA
Miami-Dade County Health Department

Florida TB Video Wins National Award

"You Can Prevent TB," a video prepared in Serbo-Croatian by the Refugee Health Program, Florida Bureau of TB and Refugee Health, has received the Award of Excellence from The Videographer Awards, a national awards organization that sets standards for the video production industry. The Award of Excellence is the highest recognition in the industry.

The Bureau of TB and Refugee Health used a script originally prepared for use in New York City, and modified it to fit the needs of Florida's Serbo-Croatian immigrant and refugee population. New York City shared it with Florida and Florida will share it with others who have Serbo-Croatian clients under treatment for latent TB infection. May International Productions of Coral Gables was the contracted producer.

A copy of the video may be requested by contacting Suzy Peters, PhD, Health Education Consultant, by mail: Florida Bureau of TB and Refugee Health, 4025 Bald Cypress Way, Mail Bin A-20, Tallahassee, FL 32399-1717; by telephone: (850) 245-4350; or by e-mail: suzy_peters@doh.state.fl.us. Following is a description of the video from Florida's TB Web site, www.doh.state.fl.us/disease_ctrl/tb/

"You Can Prevent TB"
- Audience: People with TB infection
- Length: 10 minutes
- Producers: Health departments of New York City and Florida

Description: When Goran discovers he has been infected with TB, a visit to the doctor calms his fears. Goran learns the facts about TB and decides to complete preventive treatment. By taking medicine, Goran can wipe out most of the TB germs in his body before they become active, so they cannot hurt him or anyone else.

Languages: Cantonese, Creole, English, Mandarin, Russian, Spanish, and now in Serbo-Croatian.

—Submitted by Suzy Peters, PhD
Health Education Consultant
Florida Bureau of TB and Refugee Health

MDR TB in St. Louis: Lessons Learned

One of the biggest outbreaks of multidrug-resistant tuberculosis (MDR TB) in the Midwest has been occurring in St. Louis, Missouri, over the past 3 years. From March 1998 to March 2001, nine cases of MDR TB have been found. The resistance pattern consisted of isoniazid, rifampin, and streptomycin. During the year 2000, three of the nine cases were discovered. As of March 2001, 140 contacts to these nine cases had been identified and only 12 remained to be followed up. However, one or two additional cases will be interviewed again for additional contacts in the near future. So the investigation continues.

Concerns about ongoing transmission of MDR TB prompted the Missouri Department of Health and the St. Louis City TB Control Program to invite CDC to assist with investigating the MDR TB cluster. On September 11, 2000, CDC sent three staff members to St. Louis to consult with state and local staff members. The CDC investigators included Drs. Peter McElroy and Renee Ridzon from the Surveillance and Epidemiology Branch, DTBE, and Ram Koppaka with the Field Services Branch, DTBE, assigned to the State of Virginia. Eric Williamson, DTBE Public Health Advisor currently assigned to the Los Angeles County TB Control Program, also participated in the investigation. The state and local staff members involved in the investigation included Ms. Roseann Rook, Ms. Gwen Stubblefield, Ms. Madeline Nash, Ms. Paulette Robertson, Ms. Pat Carol, Ms. Deborah McGruder, Ms. Hilda Chaski-Adams, and Dr. George Emeran. At that time only seven MDR TB cases were known. The CDC investigators were able to epidemiologically link six of the seven cases; all seven were part of the same social network.

Prior to the CDC team's arrival, no more than three cases were epidemiologically linked. In December 2000, Dr. Ridzon returned to St. Louis to discuss the MDR TB problem with physicians and nurses in the area and heighten awareness about it. In addition to CDC's assistance, the Missouri Department of Health provided TB program staff to assist St. Louis City staff with the contact investigation from October 2000 through February 2001. Contacts to the MDR TB cases were placed on a regimen of pyrazinamide and ethambutol in an effort to prevent additional cases of MDR TB.

For background purposes, in February 1997, a man in his 40s was diagnosed with cavitary TB in a St. Louis hospital. The patient's sputum specimens were positive for acid-fast bacilli, and he was confirmed as having *M. tuberculosis* on culture. Susceptibility testing showed multidrug resistance to isoniazid, rifampin, and streptomycin. Significant risk factors for active TB included a history of homelessness, alcohol dependence, and drug use. He was unemployed and a smoker, and resided at times with relatives and at other times in a shelter. He was discharged to the home of a relative and received directly observed therapy (DOT) until he was readmitted for an unrelated complaint in March 1997. Because of the difficulty inherent in following up on a homeless person, he was committed to the Missouri Rehabilitation Center (MRC) in Mount Vernon, Missouri, to complete treatment. Subsequent to this case, there have been eight other MDR TB cases diagnosed in the city of St. Louis. The contact and social networking investigations linked this index case directly to five

secondary cases. Two contacts to one of the secondary cases also developed active TB. One case was never epidemiologically linked to the others.

CDC's recommendations for addressing this TB problem were as follows:

- Notify the infection control programs in two hospitals in St. Louis of this situation and provide a briefing on the status of this MDR TB cluster;
- Identify all contacts who were exposed to infectious patients in this MDR TB cluster. The use of the social-network approach to contact investigations may be more successful than traditional contact investigation methods;
- Treat the MDR TB cases with at least three drugs to which the *M. tuberculosis* organisms are susceptible for a period of 18 to 24 months;
- Keep all persons with infectious MDR TB in respiratory isolation in a health care facility or in home isolation until they are found to be smear negative and relatively noninfectious; and
- Facilitate better lines of communication with regard to ongoing care and discharge planning of TB patients admitted to the MRC. (The state health department should take the lead in facilitating better communication.) The Missouri Department of Health's TB control program began conducting collaborative case conferences (CCCs) in December 2000 based on the model that the Florida TB control program utilizes. Since December, a CCC was conducted in April and a third CCC is scheduled for September. During the CCC several TB cases are discussed by the participants. Various issues and concerns often surface and are discussed. The CCC is an excellent tool to improve and enhance communication among health professionals.

There are at least two reasons to believe that this outbreak of MDR TB may continue. First, there still may be one or more unidentified source case(s) that have yet to receive treatment. Four cases were quite advanced, as evidenced by the multiple cavities on their chest x-rays. It appears that they both had extended periods of illness and had delayed treatment. This is not uncommon. Research into TB cases in Los Angeles County found that unemployment and not knowing where to obtain care were more closely associated with a delay of treatment (>60 days) than was severity of illness. It is likely then that if other MDR TB cases exist in the St. Louis area with similar demographics, they will also delay treatment and optimize the further spread of disease.

Second, known and unknown social contacts have the potential to develop MDR TB. There are fewer treatment options for TST-positive contacts to MDR TB than there would be for contacts of TB that is susceptible to most drugs. Some of the contacts in these scenarios were treated with pyrazinamide and ethambutol for 6 months or longer; however, the effectiveness of this treatment is virtually unknown. For this reason, other close contacts are being followed with chest x-rays and symptom reviews every 6 months for 2 years. Tracking known contacts who are transient and have histories of drug use, alcohol abuse, and unemployment can be exceedingly difficult and labor-intensive and cannot continue indefinitely. In addition, one of the contacts with active disease, considered a clinical case, refused treatment after 4 months.

Lessons Learned

Contact and social networking investigations are seldom completed. Contacts to the index case were still being identified 3 years after his diagnosis. Staff at the St. Louis City Department of Health and Hospitals, the Missouri Department of Health, CDC, and MRC all played a part in eliciting contacts.

Despite the repeated interviews with and questions of the index case, there are still probably unidentified infected contacts, since at least two of the cases were transient and spent time in homeless shelters.

Hospital and emergency room staff members play a key role in controlling TB. The members of the demographic group involved in this outbreak often do not have primary care providers and seek medical care from emergency rooms. Others delay treatment until disease is severe and hospitalization is required. The last two patients in this outbreak had made several office visits to physicians, and their disease had not been accurately diagnosed. In order to ensure that MDR TB cases are identified more efficiently in the future, the medical community must have a heightened awareness of the problem. The city, state, and CDC recognize the need for increasing this awareness, and the CDC staff were particularly helpful in conducting grand rounds of key St. Louis–area hospitals.

Drug-resistant TB complicates directly observed therapy and strains resources. Treatment for MDR TB is administered daily and requires intramuscular injections and/or intravenous (IV) infusion for many months. Daily DOT by a licensed nurse was required. With several MDR TB patients simultaneously needing treatment, this commitment of professional staff time was an enormous burden to a TB program with only one TB nurse case manager and nonnursing outreach workers. Now most of the outreach workers are LPNs, and the city health department is hoping for additional staffing increases. CDC is coordinating the provision of outbreak response funds to help finance IV infusion therapy and housing needs. All of the MDR TB patients were hospitalized at MRC for at least part, if not all, of their treatment, which strained the resources of this facility. All outpatient medications were provided by state funding, which led to additional financial shortages.

Missouri's inpatient treatment facility and court-order process were key to outbreak control. All but one of the MDR TB cases were hospitalized at the Missouri Rehabilitation Center. Some of the patients stayed for the entire duration of treatment under court order. Quarantine of these patients was essential for outbreak control, since several of the patients were homeless, substance abusers, and nonadherent with outpatient treatment and isolation. Hospitalization ensured that transmission was suspended at the time of diagnosis. Also, expertise in treating MDR TB is extremely limited in Missouri; however, the medical staff at MRC gained needed experience and provided consistent and state-of-the-art treatment through consultation with the New Jersey Medical School National Tuberculosis Center and the National Jewish Medical and Research Center. The MRC is now a statewide resource for the treatment of MDR TB. So far, none of the patients they treated have reactivated. Controlling this outbreak would have been extremely difficult, if not impossible, without an inpatient treatment facility such as the Missouri Rehabilitation Center.

Missouri has gone from being a low- to middle-incidence state, with little or no MDR TB, to one with nine MDR TB cases in less than 4 years. Although it is difficult to truly portray all the difficulties and frustrations involved in responding to an MDR TB outbreak, we hope that other states, particularly lower-incidence states, can benefit from our experience.

—Reported by Vic Tomlinson and Lynelle Phillips Missouri TB Control Program

Virginia's Traveling Spittoon Award

VA Code §18.2-322 states, "No person shall spit, expectorate, or deposit any sputum, saliva, mucus, or any form of saliva or sputum upon the floor, stairways, or upon any part of any public building or place where the public assemble, or upon the floor of any part of any public conveyance, or upon any sidewalk abutting on any public street, alley, or lane of any town or city."

Why did Virginia pass this law in 1906? Did this mean that human spitting was so out of control that legislation became necessary?

The answer to this question actually lies in Virginia's early efforts to curb the transmission of TB. At the turn of the 19th century, TB was very much a disease out of control. There were well over 6,000 cases per year in Virginia and TB was one of the leading causes of death. TB was believed to be a hereditary disease since it tended to run in families. In 1882, Dr. Robert Koch discovered the organism responsible for TB disease and even devised a test for it. By the early 1900s, TB was still running rampant through the population. In 1904, Virginia's first sanatorium treatment of TB was begun at Central State Hospital in Petersburg, Virginia. The newest cure was lots of fresh air and sunlight. Although the sunlight did contain UV radiation that killed the TB germs, people were also dying of too much exposure to the elements. People whose immune systems were strong enough upon admission were sometimes cured with the added rest and nutrition. For the vast majority, though, TB was still a disease that consumed one from the inside out and the classic symptom was the productive cough.

Since there was no cure for TB at that time, the sick continued to work and socialize until the illness overtook them. When these citizens were out and about, they found it necessary to spit as a means of disposing of the sputum that had collected after a coughing episode. The state of Virginia, as well as the other states, saw a proliferation of brass spittoons strategically placed in public locations to address this need. Personal, hand-size spittoons were also marketed to the ladies of the day so they could very politely dispose of the sputum. Virginia passed the Anti-Spitting law in 1906 to further reduce the spread of this disease by unknowing constituents.

In present-day Virginia, we learn from the past, and we remember the early efforts of those pioneer health care workers who did the best with what they had. This year, the Virginia Department of Health (VDH) Division of Tuberculosis Control (DTC) developed and initiated an annual performance award to be given to the winning health district within each of the five health planning regions. In commemoration of those early TB control efforts, the award has been named the "Traveling Spittoon Award."

There are five "Traveling Spittoons," one for each health region. The brass spittoon is mounted on a walnut stand with a nameplate on the front and the annual winner's name on the side. The Spittoon symbolizes Virginia's early public health efforts by passing the 1906 Anti-Spitting Law. In essence, the spittoon served as our first sputum collectors. Today, we know that TB is spread through the air, but we still collect the sputum from anyone who might have TB. The sputum collectors of today look much different when compared to a brass spittoon, but the public health control measure of controlling where a person expectorates continues to be practiced.

DTC developed four objective criteria to determine the winner. The criteria are outcome based and focus on completion of curative therapy, effective use of DOT,

completion of treatment for latent TB infection, and the complications associated with the case. These criteria also reflect the priority activities of the DTC. Those priorities are: detection of all cases, initiation of adequate and appropriate treatment, and completion of the treatment.

The new TB award, the Traveling Spittoon, has begun its journey from the central office to the home districts of this year's winners. Meetings were scheduled in each of the regions that included newly released TB statistics, a short TB lecture, and then the presentation of the Spittoon. These presentations will be repeated next year and the spittoon will "travel" to the winning district. Until that time, each winner has possession of the spittoon to mark its achievement.

By the way, if you are planning a visit to Virginia, just remember that any person violating the 1906 Anti-Spitting law shall be guilty of a Class 4 misdemeanor.

—Submitted by Wendy Heirendt
Virginia TB Control

New Logo for Virginia's TB Control Program

The Division of Tuberculosis Control (DTC) at the Virginia Department of Health (VDH) announces the introduction of a new logo and a renewed focus on priorities. The message and goal of all health districts is to **d**etect every case, **t**reat adequately and appropriately, and **c**omplete therapy.

As health workers involved in the effort to protect others from tuberculosis, each one of us actively seeks to detect every person with tuberculosis living in our jurisdiction. Once that person is found, we aim to treat that individual for TB disease. We also aim to detect and treat all infected contacts of persons who have tuberculosis disease. The third focus of our job is to ensure that all patients with tuberculosis disease and their infected contacts complete an adequate and appropriate course of treatment. For each patient for whom we have successfully achieved these three priorities, Virginia gets one case closer to TB elimination.

The DTC Surveillance and Epidemiology Unit will be actively promoting this approach as a complement to the standard case investigation techniques. We hope to assist in the prioritization of activities when resources may be limited. Once the essentials of **D**etection, **T**reatment, and **C**ompletion have been achieved, we can turn our sights to other elimination activities such as targeted testing and treatment of latent TB infection.

—Submitted by Wendy Heirendt
Virginia TB Control

Landmark TB Legislation Enacted by the Virginia General Assembly

The legal support for tuberculosis control activities in Virginia will be strengthened owing to provisions of landmark legislation that became effective throughout the Commonwealth on July 1, 2001. The legislation, introduced at the urging of the American Lung Association of Virginia and with the endorsement of the Virginia Division of Tuberculosis Control, was enacted by the 2001 Virginia General Assembly and signed into law by Governor James Gilmore on March 20, 2001. In modifying its tuberculosis control laws, Virginia has become one of the first states to make such changes in response to one of the key recommendations contained in *Ending*

Neglect, the Institute of Medicine's recent report on control of tuberculosis in the United States.

The *Code of Virginia* and the accompanying regulations have included TB on the list of reportable diseases and have for many years provided the Commissioner of Health with authority to order legal isolation of persons with "communicable diseases of public health significance." However, the practical utility of this authority was reduced by a requirement to demonstrate communicability and to prove the presence of disease by culture confirmation. As with other communicable diseases, reporting requirements for TB were limited to notification of local health authorities by laboratories and practitioners at the time of suspicion or confirmation of disease.

The *Code* as amended expands the legal definition of communicable TB to include not only culture-confirmed, smear-positive pulmonary TB, but all other forms of pulmonary and extra- pulmonary disease as well, including cases in which smears are negative and those in which cultures are negative but disease is defined clinically. Persons with suspected TB based on positive smears can also be included in this legal definition if other sufficient evidence exists to support the diagnosis. A provision that defines TB disease, once diagnosed, as communicable until cured enables health authorities to mandate treatment to completion. These definitions greatly expand the scope and flexibility of the Commissioner's authority to compel nonadherent patients to comply, while leaving the safeguards to patient rights intact.

Reporting requirements are also expanded to include specific clinical and demographic information on the patient and the name and contact information for the practitioner who has assumed responsibility for the patient's treatment. The treating clinician is required to notify the health department not only at the time of diagnosis but periodically during treatment, and must report when treatment ceases either due to successful completion or patient default. Treating physicians are also required to develop and maintain a written plan of treatment and written record of adherence, both of which are subject to the review and approval of local health authorities. Hospitals, correctional facilities, and other inpatient facilities are required to submit treatment plans for approval prior to release or discharge. In addition to reporting isolation of *M. tuberculosis* from clinical specimens, laboratories are required to either report results of anti- microbial susceptibility testing or to submit isolates to the state public health laboratory so that this testing may be done. These provisions will enable local health authorities to respond more promptly and effectively to cases of TB complicated by noncompliance, inadequate therapy, or drug resistance.

An important impetus for change in the TB control laws in Virginia was the Tuberculosis Advisory Committee, created last year by the American Lung Association of Virginia at the request of the Virginia Division of Tuberculosis Control. Members of this Committee successfully lobbied members of the General Assembly to introduce the legislation. As a consequence of the close working relationship that developed between patrons of the bill and members of the committee, the Division of TB Control was given the rare opportunity to participate directly in the drafting of this legislation. In this manner, the legislation could be designed to specifically address the true needs of TB control in the Commonwealth. The Division is currently drafting the regulations that will allow implementation of the new laws and is developing a plan to educate staff of clinics, institutions, and laboratories about how to comply with the new requirements.

—Submitted by Venkatarama R. Koppaka, MD, PhD,
and Lex Gibson
Virginia Division of TB Control

UPDATES FROM THE COMMUNICATIONS AND EDUCATION BRANCH

"TB Elimination: Now Is the Time!" Brochure

As many of you know, DTBE staff are working to determine the current barriers to TB elimination and the role of communications in helping remove these barriers. To help meet these challenges, staff of DTBE and of the Office of Communications (OC), both in the National Center for HIV, STD, and TB Prevention, teamed together in a communications project.

The team gathered information from national and local partners in TB prevention and control. This information provided the team with valuable guidance on potential messages, new partners, and calls to action. Using all these resources, the team developed messages about TB prevention and control that were tested in focus groups. Through this formative research, the team identified key themes, messages, and calls to action.

In addition to this formative research, the Institute of Medicine (IOM) report, *Ending Neglect: The Elimination of Tuberculosis in the United States,* released in the spring of 2000, identified areas of decisive action that are necessary to achieve TB elimination in the United States.

DTBE has worked diligently to incorporate the information gleaned from the formative research and the IOM report into our new materials. The new DTBE brochure entitled "TB Elimination: Now Is the Time!" is our first educational piece built primarily around the messages, themes, and calls to action identified in the formative research and outlined in the IOM report.

The brochure includes information on the following topics:

- The Global Impact of TB
- General TB Information
- HIV-TB Coinfection
- TB's Disproportionate Burden on Minorities
- New Challenges Posed by TB
- The Price of Neglect
- Finishing the Job of TB Elimination

HTML and PDF versions of this brochure are available on the Internet at the DTBE Web site, www.cdc.gov/nchstp/tb/, under "What's New," or by going directly to www.cdc.gov/nchstp/tb/pubs/nowisthetime/. In addition, limited quantities of the print-based version of the brochure are available at no cost and can be requested by accessing DTBE's on-line ordering system at DTBE's Web site (see above; on the menu, go to General Topics, then to On-line Ordering System), or by calling DTBE's Communications and Education Branch at (404) 639-8135. We hope this brochure will be useful in your communication and education efforts toward our shared goal of TB elimination in the United States.

—Reported by Scott McCoy
Division of TB Elimination

TB Information Guide CD-ROM

In May 2001, DTBE introduced the first version of the *TB Information Guide*, a CD-ROM that includes many of the materials found on DTBE's Web site. The CD-ROM is a quick resource for those who do not have time to connect to the Internet or for those who have slow or intermittent access to the Internet.

The sections of the CD-ROM are as follows:

- Educational materials: Health care provider and patient education and training materials.

- Major TB guidelines: Guidelines from CDC's *Morbidity and Mortality Weekly Report* (*MMWR*) series and joint statements from CDC and the American Thoracic Society.

- *Morbidity and Mortality Weekly Reports*: TB-related articles from CDC's *MMWR* series. *MMWR*s are sorted by subject and by publication year.

- Surveillance reports: Tabular and graphic information about reported TB cases from 59 reporting areas.

- Slide sets: Various slide sets developed as an accompaniment to select publications.

- Ordering information: Information on how to order free materials from DTBE.

The *TB Information Guide* will be available for ordering in early October. It can be requested in the following ways:

- Through DTBE's online ordering system: www.cdc.gov/nchstp/tb

- By mailing or faxing a DTBE Educational and Training Materials Order Form

- Through the CDC Voice and Fax Information System by calling toll free: 1-888-232-3228, then selecting 2, 5, 1, 2, 2, 2, and requesting *TB Information Guide*, order #099-6879.

—Submitted by Betsy Carter, MPH, CHES
Division of TB Elimination

TB Education and Training Network (TB ETN)

As the result of recommendations highlighted in the *Strategic Plan for Tuberculosis Training and Education,* DTBE is pleased to announce the establishment of the TB Education and Training Network (TB ETN). The TB ETN was developed for educators in state, big city, and territorial health departments. TB programs have designated one person to be a primary Network member and a second person to be an alternate member with the understanding that each member is responsible for sharing TB ETN information throughout his or her area of responsibility. The goals of the TB ETN are to

- Build, strengthen, and maintain collaboration among the key agencies and organizations in TB education and training;

- Provide a mechanism for the sharing of TB education and training resources to avoid duplication of effort;

- Develop, improve, and maintain access to TB training and education resources;

- Provide updated information about TB courses and training initiatives; and

- Assist representatives in building education and training skills.

TB ETN members attended a workshop meeting in August. This workshop was dedicated solely to health education, training, and communication issues and provided networking opportunities for colleagues in TB programs who face similar education and training issues.

—Submitted by Betsy Carter, MPH, CHES
Division of TB Elimination

UPDATES FROM THE RESEARCH AND EVALUATION BRANCH

New Treatment Trial for Latent TB Infection

The Tuberculosis Trials Consortium (TBTC) has launched Study 26, an important and ambitious new Phase III clinical trial. Study 26 will evaluate the effectiveness and tolerability of 3 months of weekly rifapentine and isoniazid (INH), directly-observed, versus 9 months of daily INH, self-supervised, for the treatment of latent tuberculosis infection (LTBI) in high-risk patients. While 9 months of INH is highly effective and inexpensive, its use is limited because the long duration of therapy tends to discourage patient adherence. Owing to this key limitation, alternative shorter regimens have become a priority. However, concerns have been raised about the short-course 2-month rifampin/ pyrazinamide (2RZ) regimen because of safety and tolerability questions, drug-drug interactions, and the large pill burden.

Rifapentine (RPT) offers considerable programmatic advantages over rifampin owing to a pharmokinetic profile that allows once-weekly dosing. Furthermore, animal studies suggest that RPT/INH is at least equivalent to RZ or INH for treatment of LTBI.

Eligible study participants will be males and nonnursing, nonpregnant females 12 years of age and older. Their reason or risk factor for requiring treatment for LTBI should include one of the following: close contact with a person with culture-positive TB; documented recent PPD conversion; HIV-seropositivity with PPD $\geq$5 mm; or pulmonary parenchymal fibrosis on chest x-ray and PPD $\geq$5 mm. Patients will be followed for 2 years after completion of therapy for evidence of active tuberculosis. With a sample size of 8,000, this will be the largest clinical trial sponsored by the DTBE. The 24 sites of the TBTC started enrolling patients throughout the United States and Canada on June 5, 2001, but it is expected that expansion of TBTC capacity and international collaboration will be needed to strengthen enrollment.

If a regimen of once-weekly 3RPT/INH is as effective and well-tolerated as daily 9INH, 3RPT/INH would be considered a first-line regimen for the treatment of latent *M. tuberculosis* infection. It would be a key component to achieving the CDC goal of eliminating TB in the United States. Elsa Villarino, MD, from the Research and Evaluation Branch, DTBE, is the project officer of the study and Timothy R. Sterling, MD, from Johns Hopkins School of Medicine and the Baltimore City Health Department, is the protocol chair.

—Reported by Sam (Judith) Hackman, RN,
Baltimore City Health Department
Johns Hopkins School of Medicine

Editor's note: Ms. Hackman is one of the two coordinators who are part of the Study Protocol Team for Study 26. She is the study coordinator for Johns Hopkins University; in addition, she writes and coordinates the Study 26 newsletter.

INTERNATIONAL ACTIVITIES UPDATE

DOTS-Plus for MDR TB and the Green Light Committee

Drug-resistant TB arises from improper chemotherapy of drug-susceptible TB patients. This includes administration of improper treatment regimens by health care workers and lack of direct observation of patients. Essentially, drug resistance arises in areas with poor TB control programs (often a reflection of the lack of DOTS in such areas). Multidrug-resistant TB (MDR TB) is a specific form of drug-resistant TB

caused by bacilli resistant to at least isoniazid and rifampicin, the two most powerful anti-TB drugs.

In areas of minimal or no drug-resistance, DOTS achieves cure rates of up to 95%, rates high enough to dramatically reduce the TB burden while preventing the emergence of drug-resistant TB. However, unlike drug-susceptible TB, which has a solid, effective management strategy, the management of drug-resistant TB is not codified. While drug-susceptible TB can be cured within 6 months, forms of drug-resistant TB such as MDR TB require extensive chemotherapy (which is also more toxic to patients) for up to 2 years.

Presently, TB is the leading infectious disease cause of death among persons 5 years of age and older (including at least 500,000 persons with TB and HIV), and is responsible for over 2 million deaths a year worldwide. The World Health Organization (WHO) estimates that one third of the world's population is infected with *M. tuberculosis*. The WHO/IUATLD Global Project on Drug Resistance Surveillance has found MDR TB (prevalence > 4% among new TB cases) in Eastern Europe, Latin America, Africa, and Asia. Mathematical modeling suggests that MDR TB needs to be aggressively managed, since the WHO DOTS strategy for control of drug- susceptible TB is not sufficient to control this deadly variant of TB. Given the increasing trend toward globalization, transnational migration, and tourism, all countries are potential targets for outbreaks. Outbreaks of MDR TB in the United States and Western Europe have been partially linked to sources in developing countries.

In 1998, in response to the growing threat of MDR TB, WHO and several partners around the world developed the concept of DOTS-Plus, a strategy currently under development and testing for the management of MDR TB. In 1999, WHO established "The Working Group on DOTS-Plus for MDR TB" to provide direction and coordination to WHO and its partners. The Working Group includes representatives of many organizations involved in the prevention and control of MDR TB, including CDC. The aims of the Working Group are to approve, conduct, and coordinate pilot projects based on the *Guidelines for Establishing DOTS-Plus Pilot Projects for the Management of MDR TB*, a document prepared by the Scientific Panel of the Working Group. In addition, the Working Group aims to improve access to second-line anti-TB drugs for DOTS-Plus pilot projects via mechanisms such as the Green Light Committee. The Green Light Committee was created as a subcommittee of the Working Group to ensure that the concessionally-priced second-line drugs were offered only to projects that were consistent with the above *Guidelines.*

DOTS-Plus is based on the foundation of the five tenets of the DOTS strategy. It takes into account specific issues (such as the use of second-line anti-TB drugs) that need to be addressed in areas where there is a high prevalence of MDR TB. Thus, DOTS-Plus works as a supplement to the standard DOTS strategy, to address multidrug-resistant TB in areas with significant levels of MDR TB. By definition, it is impossible to conduct DOTS-Plus in an area without having an effective DOTS-based TB control program in place. DOTS-Plus is not intended as a universal strategy. DOTS-Plus should be implemented in selected areas with moderate to high levels of MDR TB in order to combat an emerging epidemic.

"The Working Group on DOTS-Plus for MDR TB" identified the lack of access to second-line anti-TB drugs as one of the major obstacles to the implementation of DOTS-Plus pilot projects. The Working Group has made arrangements with the pharmaceutical industry to provide concessionally-priced second-line anti-TB drugs to DOTS-Plus pilot projects meeting

the standards outlined in the *Guidelines*. Therefore, project teams can gain access to these discounted second-line drugs by applying to the GLC.

It is the task of the Green Light Committee to review applications from potential DOTS-Plus pilot projects and determine whether or not they comply with the *Guidelines*. Project managers interested in having their projects reviewed by the Green Light Committee should review the document *Instructions for Applying to the Green Light Committee for Access to Second-line Anti-Tuberculosis Drugs*, available from the WHO Web site www.who.int. WHO and others have posted the meeting dates and application deadlines for 2001.

Key Points

- DOTS prevents the emergence of drug-resistant TB and MDR TB by ensuring that patients adhere to the full course of treatment.
- DOTS-Plus is designed to cure MDR TB using second-line anti-TB drugs.
- DOTS-Plus is needed in areas where MDR TB has emerged due to previous inadequate TB control programs.
- DOTS-Plus pilot projects are only recommended in settings where the DOTS strategy is fully in place to protect against the creation of further drug resistance.
- It is vital for DOTS-Plus pilot projects to be implemented following the recommendations of the WHO Working Group on DOTS-Plus for MDR TB, to minimize the risk of creating drug resistance to second-line anti-TB drugs.
- Before launching DOTS-Plus pilot projects, applicants are strongly recommended to consult WHO, and to apply to the Green Light Committee for specially-priced second-line anti-TB drugs.
- With the coordination of "The Working Group on DOTS-Plus for MDR TB" and a partnership with industry, the prices of second-line anti-TB drugs have fallen considerably, making these drugs more accessible to patients in resource-poor countries.

—Reported by Peter Cegielski, MD, MPH
Division of TB Elimination
CDC Representative to the Green Light Committee

Update on the Electronic TB Class A/B Notification Project

Introduction

As indicated in the recent Institute of Medicine (IOM) report on TB, "the elimination of tuberculosis (TB) in the United States will increasingly depend on the elimination of TB among foreign-born individuals." [1] To this end, the CDC Division of Global Migration and Quarantine (DQ) is moving forward with the development of an Internet-based information system for notifications regarding the arrival of persons with Class A/B TB. (Persons whose x-rays are compatible with TB and whose AFB smears are positive are designated as Class A, infectious TB; persons whose x-rays are compatible with TB but whose AFB smears are negative are designated Class B, noninfectious TB.) The goals of this new system are to increase the timeliness of these notifications to state and local health departments and to improve the data collection tool in order to provide meaningful data for evaluation of follow-up of Class A/B cases at the national, state, and local levels.

To accomplish these goals, DQ has established a working group, the Electronic Migration Notification System Working Group (Table 1), in collaboration with the Division of TB Elimination (DTBE), the National TB Controllers Association (NTCA),

and representatives from several state and big city TB and Refugee Health Programs. DQ convened an initial working group meeting in June 2000 with a follow-up meeting in September 2000. As a result of these meetings, the working group provided input that helped DQ formulate a project plan for calendar year 2001. In addition, sub-working groups (SWGs) were convened to address specific issues affecting surveillance activities for persons with Class A/B TB conditions. One SWG focuses on the challenges of movement (subsequent migration) and is chaired by Shameer Poonja from Massachusetts. The second SWG, chaired by Subroto Banerji of California, is developing recommendations for revision of the current data collection tools, CDC Form 75.17 (Notice of Arrival of Alien with Tuberculosis & Report on Alien with Tuberculosis, for Class B aliens) and CDC Form 75.18 (Notice of Arrival of Alien with Tuberculosis Waiver & Report on Alien with Tuberculosis Waiver, for Class A aliens).

On April 19-20, 2001, DQ convened the third meeting of the Electronic Migration Notification System (EMNS) working group. Mr. Tony Perez, Director, DQ, and Dr. Ken Castro, Director, DTBE, opened the meeting. Mr. Perez commented that the success of the EMNS is a top priority for DQ; that the IOM TB report is timely; that timing is important for addressing TB among newly arrived foreign-born persons; and that success can be achieved only by communication with and commitment from all partners. Dr. Castro commented that although TB rates are at an all-time low among the general population, this is not the situation among foreign-born persons. He also stated that the IOM TB report is clear in its challenge to eliminate TB by focusing attention on these persons. Dr. Castro said that he sees the electronic notification system as a tool to use in achieving the elimination of TB; however, he believes that important questions are, “What will each partner do with the information?” and “How will it be used?” Dr. Castro feels this system is long overdue and DTBE’s commitment to it mirrors that of DQ.

Overview of Class B1/B2 TB Data
The DQ Information for Migrating Populations (IMP) database indicates that the number of Class A notifications was extremely low for fiscal year 1999 (FY99). For Class B notifications, California received the highest number (34% of the FY99 national total). The other EMNS working group states accounted for an additional 30% (Figure 1); New York State led these states with 8%. Nationally, almost two thirds of all Class B notifications were for persons classified as B2. Among the EMNS working group states, the proportion of Class B notifications for persons classified as B1 ranged from 20% to 43%; for persons classified as B2, the range was 57% to 77% (Figure 2). Both interesting and a bit concerning was the low return rate of the CDC Forms 75.17 and 75.18 from states to CDC/DQ. Overall, 64% of notifications in FY99 were returned to CDC/DQ; however, the return rate probably does not accurately reflect the percentage of people with TB classifications evaluated in each state.

Addressing the Challenges of Movement
As with active cases of TB, movement of persons with TB Class A/B presents challenges to the public health system with respect to timely notification, completion of the U.S. medical exam, and initiation and completion of an appropriate treatment regimen. The SWG on migration identified types of subsequent migration among persons with TB Class A/B notifications:

- Known movement from jurisdiction to jurisdiction: the new contact or locating information is known;

- Unknown movement from jurisdiction to jurisdiction: the initial health department is unaware that the migrant has relocated;

- Temporary migration: the migrant indicates that he or she is temporarily traveling to another state and will return to the original state of residence;

- Return to country of prior residence.

The migration SWG recommended the following definition for subsequent migration: Any movement of a newly arrived refugee or immigrant with an identified Class A or B TB condition who initiates or completes an evaluation in a jurisdiction other than his or her intended jurisdiction of residence.

Improving the Data Collection Tool
DQ has long recognized that CDC Forms 75.17 and 75.18 are inadequate to provide meaningful outcome analyses. To this end, a second SWG is addressing the much-needed revision of this data collection tool. The goal of the form-revision SWG is to create questions that-

- Provide meaningful outcome analysis for program evaluation at the local, state, and national levels;

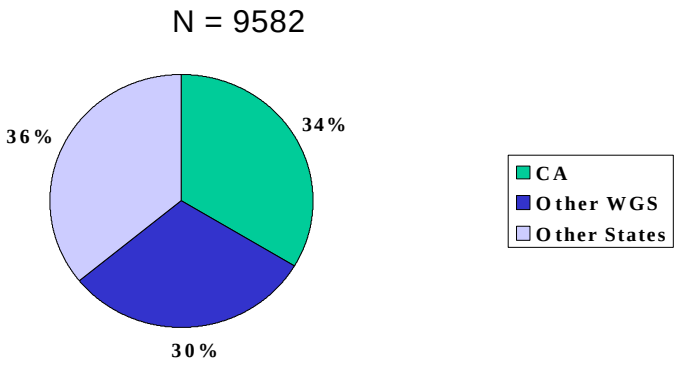
- Use established variables from the RVCT (Report of Verified Case of Tuberculosis); and

- Create data elements that will support the NEDSS/HISSB (National Electronic Data Surveillance System/Health Information Surveillance System Board) requirements.

Table 1: Electronic Migration Notification System Working Group Members

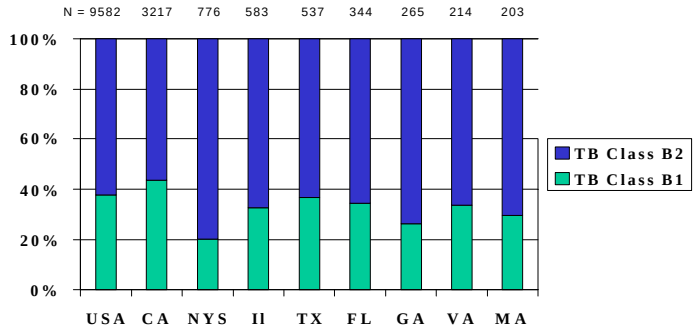
State/City	Refugee Hlth Programs	Subgroup Affiliations
CA	Laura Hardcastle	Migration
FL	Laura Smith	Migration
GA	Alice Long	
IL	Ho Tran	
MA	Jennifer Cochran	
NY City	Geevarghese Abraham	Migration, Form Revision
NY City	Burt Roberts	
TX	Sam Householder	Migration
VA	Anna Davis	Form Revision
State/City	**TB Control Programs**	
CA	Subroto Banerji	Form Rev (Chair), Migr (Co-Chair)
Chicago	Dennis Minnice	
Chicago	Jason Nehal	
GA	Beverly Devoe	
GA	Rose Sales	
GA	Carolyn Martin	
IL	Michael Arbise	
MA	Shameer Poonja	Migration (Chair), Form Rev
NY City	Errol Robinson	Form Revision, Migration
NY State	Noelle Howland	
TX	Phyllis Cruise	Migration
VA	David Phillips	
NTCA	Stefan Goldberg	Form Revision
	Kathleen Moser	Form Revision
CDC/DTBE		
Surv & Epi Branch	Eileen Schneider	Form Revision
Intl Activities	Kayla Laserson	Migration
Intl Activities	Peter Cegielski	
Field Svcs Branch	Paul Tribble	
CDC/DQ		
Data Mgmt Section	Gary Armstrong	Form Revision, Migration
	Wanda Hall	Form Revision, Migration
	Roochi Sharma	Form Revision, Migration
Migration and Health Assessment Section	Susan Cookson	Form Revision, Migration

Figure 1. Percentage of TB Class B Notifications by Select States, FY 1999



Source: CDC/Division of Global Migration & Quarantine, Information for Migrating Populations database, fiscal year 1999. Other WGS = Other Working Group states: New York State (includes New York City), Illinois (includes City of Chicago), Texas, Florida, Georgia, Virginia, Massachusetts.

Figure 2. Percentage of TB Class B1/B2 Notifications, USA and Select States, FY 1999



Source: CDC/Division of Global Migration & Quarantine, Information for Migrating Populations database, fiscal year 1999. NYS = New York State (includes New York City), Il = Illinois (includes City of Chicago).

The form-revision SWG developed a series of research questions that were shared with the larger working group for input and discussion. There was a high level of agreement with regard to the research questions. In the coming months, the form-revision SWG will use the questions to identify the data elements, identify the subsequent migration variables, adapt the data elements to NEDSS requirements, and define the data elements. Once this has been accomplished, the form will be revised to accommodate the new or revised data elements. Future steps will be to pilot-test the form, submit the revised form to the Office of Management and Budget (OMB) for approval, develop instructions, and modify the DQ IMP database.

The goal of the electronic system will be to alleviate the confusion and delays associated with subsequent migration. In the meantime, the migration SWG, in collaboration with DQ, will be proposing guidelines for state TB programs that will outline recommended steps for transferring current A/B notification paperwork between states.

In addition, the form-revision SWG will work with DQ to develop policies and procedures for states to use to facilitate rapid reporting to DQ when a newly arrived migrant is found to have infectious (sputum smear–positive) TB. A questionnaire and procedure will be developed for reporting jurisdictions to use to provide information for those persons who are found to have infectious TB so that staff from the DQ Migrant and Health Assessment Section can initiate an overseas trace-back.

Information System Development
Eight states are pilot-testing the Internet-based notification system for Class A/B TB notifications, using the CDC Secured Data Network (SDN). The SDN is a secure Internet system developed and implemented by CDC based on industry standards and confidentiality guidelines. The SDN creates an information gateway by which CDC can securely exchange confidential and sensitive data with CDC field staff, researchers, and public health partners, such as state and local health departments. CDC has implemented the SDN to ensure that data transferred between health departments and CDC are encrypted, and therefore not accessible to unauthorized users during transmission over the Internet. The immediate plan is to make improvements to the current Class A/B information system so as to increase functionality and add the capacity for states to download their own data. Future plans are to revise the system to accommodate new variables for the forms 75.17 and 75.18, address movement, and include more information from the overseas screening.

Next Steps
DQ staff currently notify health departments by U.S. mail of immigrant and refugee arrivals. This involves forwarding copies of the overseas visa medical examination results, one element of which is the screening for infectious TB. Electronic notification will assist states in promoting early access to health services and appropriate evaluation for conditions identified during the overseas exam. While TB control programs view the development of an electronic notification system as a much-needed method to improve Class A/B TB notification, refugee health programs view the development of EMNS as the first step of a more comprehensive information system for the approximately 80,000 refugees arriving in the United States each year. DQ plans to address these competing needs by focusing on TB notification and using the success of this prototype system to support ongoing development of a more comprehensive electronic migrant notification system. The success of the third EMNS working group meeting could not have occurred without the strong level of commitment from our partners in the field and within CDC. The outcomes from the

two SWGs have allowed us to address the challenges of subsequent migration as well as make progress in the redesign of the current data collection tool. A continued collaborative effort is the key to ensuring the implementation of a well-designed and functional electronic notification system for TB Class A/B notifications. With this system, the recommendation identified in the IOM TB report can be achieved and the elimination of TB within this population can come closer to reality.

Reference

1. Institute of Medicine. *Ending Neglect: The Elimination of Tuberculosis in the United States.* Washington, DC: National Academy Press; 2000.

—Submitted by Subroto Banerji, MPH PHA, DTBE, and California TB Control Branch, Jennifer Cochran, MPH, Director, Immigrant and Refugee Health Program, Massachusetts Dept. of Public Health, and Susan Cookson, MD, Chief, Migration and Health Assessment Section, DQ

TRAINING AND EDUCATIONAL MATERIALS

Education and Training Products Available from the New Jersey Medical School National Tuberculosis Center

The New Jersey Medical School National Tuberculosis Center (NJMS NTBC) has developed two products to facilitate improved contact investigation. The listed materials are beneficial to healthcare workers, supervisors, and educators.

- *TB Interviewing for Contact Investigation: A Practical Resource for the Healthcare Worker* is a set of two tools designed to assist the healthcare worker in conducting a TB interview. The set contains the "TB Interview Outline," a detailed guide to the tasks and essential points to be covered during the interview, as well as the "TB Interview Checklist," an abridged version of the outline, which lists prompts for the interviewer and can be used while interacting with patients.

- *Performance Guidelines for Contact Investigation: The TB Interview, A Supervisor's Guide for the Development and Assessment of Interviewing Skills* lays the foundation for TB control supervisors to identify the areas of healthcare workers' strengths and weaknesses in TB interviewing. It provides interviewer evaluation instruments and guidelines for training and education based on these assessment results.

NJMS NTBC also has pocket-sized drug treatment cards available for clinicians. In addition to our recently revised drug card on "Treatment of Tuberculosis: Standard Therapy for Active Disease," our Center developed a new drug card, "Treatment of Tuberculosis (TB) in Adult and Adolescent Patients Coinfected with the Human Immunodeficiency Virus (HIV)." This handy and convenient pocket reference provides information on therapy options and recommendations for the coinfected patient including drug interactions and side effects.

To receive these products, call the New Jersey Medical School National Tuberculosis Center at (973) 972-8453 or access http://www.umdnj.edu/ntbcweb.

—Submitted by Debra Kantor and Rajita Bhavaraju New Jersey Medical School National TB Center

NEW CDC PUBLICATIONS

Driscoll JR, Lee PA, Jovell RJ, Hale YM, Salfinger M. How and why we fingerprint tuberculosis. *RT, The Journal for Respiratory Care Practitioners* 2001;14(1).

Lan NTN, Iademarco MF, Binkin NJ, Tung LB, Quy HT, Co NV. A case series: inital outcome of persons with multidrug-resistant tuberculosis after treatment with the WHO standard re- treatment regimen in Ho Chi Minh City, Vietnam. *Int J Tuberc Lung Dis* 2001;5(6):575-578.

Laserson KF, Kenyon AS, Layloff TA, Binkin NJ. Substandard tuberculosis drugs on the global market and their simple detection. *Int J Tuberc Lung Dis* 2001;5(5):448-454.

O'Brien RJ, Nunn PP. The need for new drugs against tuberculosis: obstacles, opportunities, and the next steps. *Am J Respir Crit Care Med* 2001; 162:1055-1058.

PERSONNEL NOTES

Rachel Albalak, PhD, is joining the division as an epidemiologist in the Epidemiologic Studies Section of the Surveillance and Epidemiology Branch. Rachel received her doctorate in Biological Anthropology from the University of Michigan. After receiving her doctorate, she worked for 3 years as a Research Assistant Professor in the Department of International Health at the Rollins School of Public Health of Emory University in Atlanta. At Emory, she taught courses in epidemiologic research design and international health. Her research involved work in the areas of air pollution, respiratory health, and nutritional status among indigenous and Spanish-speaking populations in Bolivia, Guatemala, and Honduras. A year ago she came to CDC, where she has been working at the National Center for Environmental Health in the Lead Poisoning Prevention Branch, Surveillance and Epidemiology Section. Her work in that branch has involved domestic and international research on primary and secondary prevention of childhood lead poisoning. She will join the SEB staff September 24th after finishing her current projects. She will be working to establish the newly formed Tuberculosis Epidemiologic Studies (TBES) Consortium.

Puneet Dewan, MD, has joined DTBE's International Activities as a first-year Epidemic Intelligence Service (EIS) Officer. He is an internal medicine physician from the University of Washington, Seattle. He grew up in California, completing undergraduate studies in English and Biomedical Sciences at the University of California, Riverside. After medical school at the University of California, Los Angeles (UCLA), Puneet completed a basic science research fellowship in microbiology, also at UCLA. During his internal medicine training in Seattle, he worked with the King County Dept. of Health characterizing the epidemiology of TB in the local immigrant population.

Alicia Fry, MD, MPH, joined DTBE in July as a medical epidemiologist in International Activities. Prior to joining DTBE, she was an Epidemic Intelligence Service (EIS) Officer in the Respiratory Diseases Branch, Division of Bacterial and Mycotic Diseases, National Center for Infectious Disease (NCID). Alicia completed her residency in internal medicine at Johns Hopkins Hospital in Baltimore, Maryland, and her subspecialty training in infectious diseases at the

University of California (UC), San Francisco. She was a molecular medicine fellow for 3 years, also at UC, San Francisco, studying T-cell signal transduction in the laboratory of Art Weiss. She also worked for one year at the School of Public Health of UC, Berkeley, studying *M tuberculosis* virulence factors in the laboratory of Lee Riley. She completed her masters degree in public health in epidemiology at UC, Berkeley.

Teresa Goss has accepted a new position in the Field Services Branch (FSB) with additional responsibilities. Teresa was selected as Lead Program Operations Assistant for FSB in January 2001. She serves as the key support person for FSB headquarters and will assist in the needs of the field staff and medical officers including travel, personnel, and any other operational and administrative matters. Teresa will receive assignments and work more directly with the branch chief in her new position.

Tara Hurley started working in May 2001 as a Program Operations Assistant in Field Services Branch and has been assigned to Field Operations Section 1. Tara was recently a member of CDC/PGO's contracts unit. She and Barbara Myers are assuming the former duties of Teresa Goss, and will be responsible for both field and headquarters travel order preparation and voucher processing. They will work with the section chiefs, consultants, and medical officers in preparing correspondence and other related documents.

Audreia Johnson has joined DTBE as a member of the Surveillance and Epidemiology Branch (SEB) National Tuberculosis Genotyping and Surveillance Network (NTGSN) publications staff. Audreia was previously a temporary secretary in the branch, and started in this new role on July 9, 2001. She will provide administrative support as SEB staff work towards the publication of a special issue of a peer-reviewed journal featuring genotyping data. Many of you may have met Audreia during the NTGSN meeting last May. She will help organize and coordinate meetings and teleconferences, follow up on publications deadlines, and provide support for other publications activities.

Janet L. Larson, MD, has left the division for a position with the Hennepin County (Minnesota) Health Department. Janet served in DTBE as an Epidemic Intelligence Service (EIS) Officer from July 1999 to June 2001, working in both International Activities and the Surveillance and Epidemiology Branch. Also trained in infectious diseases, Janet will apply the experience she gained in DTBE to her new position as a Medical Epidemiologist for immunization, tuberculosis, and international health at the Minnesota Department of Health, where she hopes to establish collaborative research links with her colleagues in DTBE. She will also work as the Medical Director for Refugee Health at the Hennepin County Community Health Department in Minnesota, where she will treat patients with tuberculosis and other diseases.

Lilia Ponce Manangan, MPH, joined the division in June and is assigned to the Surveillance and Epidemiology Branch as an epidemiologist. Originally from Magsingal, Ilocos Sur, the Philippines, Lilia received a bachelor of science degree in nursing in 1973 from St. Paul College of Manila, in Manila, the Philippines, and received a masters

degree in public health from the University of Hawaii in 1978. Lilia's career has included clinical, home care, teaching, and research experience in various settings such as hospitals, clinics, public health agencies, and nursing schools in Hawaii, Utah, Colorado, and Georgia. She has conducted national surveys on the prevention and control of healthcare-associated infections, particularly TB, in U.S. hospitals. Lilia was most recently an epidemiologist in the National Center for Infectious Disease's Hospital Infections Program. In that capacity, she designed, initiated, coordinated, conducted, and directed epidemiological research on the prevention and control of healthcare-associated infections in various healthcare settings including development of research protocols and the collection, management, analysis, and interpretation of data related to such activities. She also maintained and improved an infection control information system for the prevention and control of healthcare- associated infections.

Suzanne Marks, MA, MPH, of DTBE's Research and Evaluation Branch, is on a temporary assignment in Côte d'Ivoire from July 17 to September 8 with the Global AIDS Program (GAP) as part of the International Experience and Technical Assistance group. She is conducting various activities for GAP program support. This includes assisting various sections in creating and implementing plans for monitoring and evaluation, planning and implementing community mobilization activities for GAP mother-child activities in Abengourou, developing media projects, assisting in production of training materials, working with USAID and their partners to execute interagency agreement activities, soliciting and overseeing review and selection of cooperative agreement proposals, networking with other groups to identify opportunities for collaboration, and providing logistical support for special events. She will also be conducting various communication-related activities.

Evelyn McCarley-Foxworth has joined the division and is working in the Surveillance and Epidemiology Branch (SEB) as a contract scientific data manager for the national surveillance system. Evelyn joined SEB in April 2001 after several years' experience as a clinical epidemiologist addressing medical surveillance objectives in an occupational setting. Evelyn also has experience as a process engineer performing investigations and coordinating data to support environmental, safety, and other health decisions in the workplace. Evelyn has a bachelor of industrial engineering degree and has completed her course work for a master of science degree in epidemiology.

Barbara Myers started working in May 2001 as a Program Operations Assistant in the Field Services Branch and has been assigned to Field Operations Section 2. Barbara comes to us from a civilian assignment at Dobbins Air Force Base here in Atlanta. She and Tara Hurley are assuming the former duties of Teresa Goss, and will be responsible for both field and headquarters travel order preparation and voucher processing. They will work with the section chiefs, consultants, and medical officers in preparing correspondence and other related documents.

Lisa Nelson, MD, MPH, has recently joined the division's International Activities as a first-year Epidemic Intelligence Service (EIS) Officer. Lisa attended Yale University, where she studied political

science with an emphasis on international development and Latin American studies. She received her MD from the University of California, San Francisco. During medical school, she also completed a master of public health (MPH) degree and a master of science (MS) degree in health sciences at the University of California, Berkeley. She completed a residency in Pediatrics in the Boston Combined Residency Program in Pediatrics as well as the first year of a Pediatric Infectious Diseases fellowship at Childrens Hospital of Boston. Lisa worked on a CDC-sponsored study of smear-negative TB in Botswana during medical school. She will begin her EIS activities with projects related to TB/HIV working with Dr. Elizabeth Talbot, DTBE's field assignee in Botswana.

Tammy Roman joined the Surveillance and Epidemiology Branch (SEB) on July 16, 2001, as SEB's new Program Operations Assistant. She is responsible for the branch's overall support functions such as travel, timekeeping, correspondence, file maintenance, and other administrative issues. She is well-qualified for this crucial role. She comes to CDC from the private sector, where she held several office-based customer service-oriented positions. Tammy is not entirely new to federal service, however. She was a Sergeant in the U.S. Air Force and received several medals for her performance.

Joseph Scavotto has been selected as the Deputy Chief of the Field Services Branch. He had previously served as the Chief of Field Operations Section I since January 1997. Joe joined CDC in 1974 as a public health advisor, and in 1987 he joined DTBE; his first assignment with the division was to the Georgia TB control program in the Fulton County Health Dept. Joe was subsequently assigned to the Baltimore City Health Dept. in Maryland in 1989, and was reassigned to the TB control program in the Alabama Dept. of Public Health in Montgomery in 1991. In 1993 he joined DTBE as a Program Consultant in Atlanta. Joe began his new job as Deputy Chief on June 3.

IN MEMORIAM

Russell Hansen died August 3, 2001. He was retired from CDC, having served as a TB program consultant in Atlanta and also as the senior TB assignee in Virginia, New York State, and Chicago. He was well known in the TB world and continued to work in the field of TB control as a consultant and trainer after he retired from CDC on December 31, 1994. He was most recently employed by the American Lung Association as a health consultant.

CALENDAR OF EVENTS

September 11-13, 2001
Tuberculosis Intensive
San Francisco, California
Francis J. Curry National TB Center
Training Coordinator
Tel: (415) 502-4600; fax: (415) 502-4620
E-mail: tbcenter@nationaltbcenter.edu

September 22-25, 2001
2001 ICAAC
41st Interscience Conference on Antimicrobial Agents and Chemotherapy
Chicago, Illinois
www.asmusa.org/mtgsrc/41ICAAC.htm

October 17, 2001
TB Update
Oakland, California
Francis J. Curry National TB Center
Training Coordinator

Tel: (415) 502-4600; fax: (415) 502-4620
E-mail: tbcenter@nationaltbcenter.edu

October 17-19, 2001
Effective TB Interviewing and Contact Investigation
Newark, New Jersey
NJ Medical School National TB Center
Rajita Bhavaraju
Tel: (973) 972-4811

October 18, 2001
Management of TB/HIV in the Correctional Facility audio conference
Newark, New Jersey
NJ Medical School National TB Center
D. J. McCabe
Tel: (973) 972-0978

October 25, 2001
Postgraduate Seminar at the IDSA Annual Mtg.
San Francisco, California
Francis J. Curry National TB Center
Training Coordinator
Tel: (415) 502-4600; fax: (415) 502-4620
E-mail: tbcenter@nationaltbcenter.edu

October 25-28, 2001
IDSA 2001 - 39th Annual Meeting of the Infectious Diseases Society of America
San Francisco, California
Register online at
www.expoconnex.org/its/idsa2001/choices.asp

November 1-4, 2001
32nd IUATLD World Conf on Lung Health
Paris, FRANCE
For information on the scientific program and abstracts, please contact:
The International Union Against Tuberculosis and Lung Disease (IUATLD)
68 boulevard Saint Michel, 75006 Paris, France
Tel: (+33 1) 44 32 03 60; fax: (+33 1) 43 29 90 87
E-mail: union@iuatld.org
For information on registration, hotel accommodations, and the exhibition, contact:
COLLOQUIUM / IUATLD
12, rue de la Croix-Faubin
75557 PARIS cedex 11 - France
Tel: (+33 1) 44 64 15 15; fax: (+33 1) 44 64 15 16
E-mail: c.briot@colloquium.fr

January 14-17, 2002
International Symposium on Current Developments in Drug Discovery for TB
National Science Seminal Complex
Indian Institute of Science Campus
Bangalore, INDIA
Registration deadline: December 15, 2001
For more information, contact:
AstraZeneca Foundation India
(Attn: Symposium Secretariate)
277 Sri T Chowdaiah Road Malleswaram
Bangalore - 560 003 INDIA
Tel: 91-80-3340-372; fax: 91-80-3340-449
E-mail: cdtb@astrazeneca.com
Web site: www.cdtb.astrazenecaindia.com

March 24-27, 2002
International Conference on Emerging Infectious Diseases
Atlanta, Georgia
Abstracts are invited beginning August 1, 2001.
Tel: (202) 942-9248
E-mail: meetinginfo@asmusa.org
Web site: www.cdc.gov/iceid